

REMARKS

I. Introduction

Claims 1-29 are pending in the application; claims 27-29 have been withdrawn from consideration. Claims 1-26 stand rejected.

II. The Rejections Under 35 U.S.C. § 103(a)

Claims 1, 2, 5 and 7-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,627,214 to Anderson et al. ("Anderson") in view of U.S. Patent No. 5,899,319 to Jarnagin ("Jarnagin"). The Official Action provides that "[r]egarding claims 1, 7-15 and 21-26, Anderson et al. teach a slitting machine comprising a frame having an upper frame and a lower frame, an upper and lower drive shafts 35, a drive motor 47, a plurality of knife holder assemblies 30, 31, a plurality of rotary knives, a knife holder position adjustment system 51 and 24, a frame adjustment mechanism 41 for vertical adjustment to the upper and lower frame, and a programmable controller for positioning the knife holder assemblies along the respective drive shafts. See Figs. 1, 2, and col. 4, lines 53-69. Anderson et al., however, do not teach a plurality of drive shaft sections each being coupled through a coupling mechanism. Jarnagin teaches a plurality of drive shaft sections each being coupled through a coupling mechanism. See Figure 2. Therefore, it would have been obvious to substitute a one segment shaft as taught by Anderson et al. by multi-segment shaft as taught by Jarnagin since a multi-segment shaft takes less storage space and is easier to transport from one place to another." Applicant submits that a *prima facie* case of obviousness has not been established for the

following reasons.

Jarnagin is directed to screw conveyors. Such devices are used to convey rice, grain and other raw food products and bulk material. See, column 1, lines 8-9 of Jarnagin. Screw conveyors are very far afield from metal slitting devices of the type disclosed in the Anderson et al. patent. The metal slitting device disclosed in Anderson et al. is not concerned with conveying bulk material such as grain or rice; the Anderson et al. splitter does not employ a screw conveyor. Thus, the Jarnagin screw conveyor is not in the same field of endeavor as the metal slitting device of Anderson et al. A person of ordinary skill in the metal slitting field would not likely look to the field of bulk material screw conveyors to solve problems associated with slitting steel.

Moreover, Jarnagin teaches that modular screw conveyors are desirable because they may be shortened or lengthened to better fit the distance between the point wherein the bulk material is picked up and the point wherein the bulk material is discharged. See column 1, lines 22-25 of Jarnagin. Jarnagin purports to disclose a coupling arrangement for coupling together modular sections of such conveyors. The hex-shafts 34 and 35 of Anderson et al. are not constructed to be shortened or lengthened. That is not a problem that concerned Anderson et al.

The *Manual of Patent Examining Procedure* ("MPEP") provides that that the prior art must suggest the desirability of the claimed invention. MPEP §2143.01. The Official Action asserted that it would have been obvious to combine the teachings of Jarnagin with Anderson et al. because "a multi-segment shaft takes less storage space and is easier to transport from one place to another." However, the Official Action fails to point to any teaching in the Anderson et

al. patent that would indicate that either of those “advantages” were issues of concern to the Anderson et al. inventors. Anderson et al. specifically provides that:

Referring particularly to FIGS. 2, 3, 5 and 8, lower upstream and downstream hex-shafts 34 and 35 are coextensive with box beam 11 and extend through respective upstream and downstream circular openings 36 and 37 in the respective frame end members 4 and 5 where they are journaled in lower upstream and down stream journals 38 and 39 which are **fixedly mounted** to end members 4 and 5.

Column 4, lines 12-18 of Anderson et al. (emphasis added). There is no teaching in Anderson et al. that would suggest that such hex-shafts 34 and 35 are to be removed from the machine and stored for future use. As such, Applicant submits that there is no teaching present in the prior art that would have led the person of ordinary skill in the metal slitting art to look to the field of screw conveyors for conveying bulk materials to solve a metal slitting problem – particularly when the asserted “problem” was not recognized by Anderson et al. Furthermore, as will be discussed in further detail below, Jarnagin and Anderson et al. teach away from each other.

The MPEP instructs that “the proposed modification cannot render the prior art unsatisfactory for its intended purpose.” *Id.* Also, the proposed modification cannot change the principle of operation of a reference. *Id.*

Jarnagin discloses a coupling arrangement for coupling sections of a screw conveyor together. As can be seen in Figures 1 and 2 of Jarnagin, the screw conveyor employs sections of hollow pipe. See also, column 3, lines 66- column 4, line 9 of Jarnagin. These pipes must be of sufficient diameter to slidably receive therein a bushing that has internal threaded portions. Notably Jarnagin provides:

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The left and right bushings have left and right outer surfaces 50 and 52 **with a maximum outside diameter which is slightly smaller (less)** than the inside diameter of the end portions of the left and right shaft sections (pipes). This permits the bushings to be inserted against and snugly engage the inner surfaces providing the interior wall and inside diameter of the pipes.

Column 4, lines 52-63 of Jarnagin (emphasis added). Thus, because the coupling is slid into the ends of the hollow pipes forming the shaft sections, there will be a “step” down between the ends of the pipes and the coupling that will correspond to the wall thickness of the pipe sections. As such, the outer surface of the resulting shaft after it is connected will not have a continuous unobstructed outer surface.

Jarnagin further discloses that the ends of the bushing are retained within the hollow pipe ends by plug welds. See, column 5, lines 1-11 of Jarnagin. Such plug welds, if not completely ground and smoothened (which does not appear to be taught by Jarnagin), could result in the formation of irregularities on the surface of the shaft sections. In addition, if the shaft sections are not substantial in thickness, the addition of heat to the shaft segments during welding could result in the shaft segments becoming undesirably warped. Steps and obstructions along the Jarnagin conveyor and slight warping of the conveyor coupling ends would likely not significantly affect the operation of the Jarnagin conveyor and thus, were not addressed in the Jarnagin patent. However, as will be discussed in further detail below, such arrangements could undesirably affect the operation and accuracy of the Anderson et al. slitter and would likely render it inoperative.

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The Anderson et al. patent provides:

Scoring blades 32 are mounted **for sliding movement** on and rotation with a pair of upstream upper and lower hex shafts 34, while slitting blades 33 are similarly mounted on a pair of downstream upper and lower hex-shafts 35. Because of the inventive concepts utilized in the machine, hex-shafts 34 and 35 may be of much less massive construction and of lesser diameter than the prior known blade support shafts. This also facilitates use of circumferentially integral blades.

Column 4, lines 3-11 of Anderson et al. (emphasis added). As can be seen from this passage, the scoring blades must **slide** on the hex-shafts such that they can be selectively located thereon.

Applicant submits that, if one were to employ the coupler arrangement of Jarnagin which results in steps being formed along the shaft, the ability of the scoring blades to **accurately** slide thereon would be jeopardized and likely prevented. Likewise, any obstructions caused by the plug welds could prevent the scoring blades from freely sliding on the hex shafts. Also any warping of the shaft sections could detrimentally affect the locating accuracy of the scoring blades on the shafts. Thus, Anderson et al. and Jarnagin teach away from each other. Adoption of the Jarnagin coupling in the Anderson device would likely render the Anderson slitter inoperative for its intended purpose. Accordingly, Applicant respectfully submits that Jarnagin is not properly combinable with Anderson et al. and therefore no *prima facie* case of obviousness has been established. Without separately addressing each of the assertions in the Official Action concerning claims 2, 5, and 16-20 and expressly reserving the right to do so, Applicant traverses the rejections of those claims (and claim 1) for the reasons stated above.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

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Anderson et al. in view of Jarnagin and further in view of U.S. Patent No. 5,888,268 to Bando. Responsive to this rejection and expressly reserving the right to address any assertions made in the Official Action with respect to this particular rejection, Applicant respectfully submits that as was discussed above, Jarnagin is not properly combinable with Anderson et al. Bando also fails to provide the missing teachings and motivations. Accordingly, for the reasons stated above, Applicant respectfully traverses this rejection.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson et al. in view of Jarnagin and Bando. Responsive to this rejection and expressly reserving the right to address any assertions made in the Official Action with respect to this particular rejection, Applicant respectfully submits that as was discussed above, Jarnagin is not properly combinable with Anderson et al. Bando also fails to provide the missing teachings and motivations. Accordingly, for the reasons stated above, Applicant respectfully traverses this rejection.

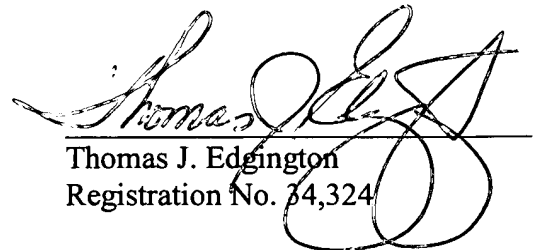
III. Conclusion

Applicant has made a diligent effort to respond to the rejections presented in the Official Action and submits that all of the pending claims are in condition for allowance. Accordingly, reconsideration and withdrawal of such objections and rejections and passage to allowance of all the pending claims are earnestly solicited. If the Examiner has any remaining concerns

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concerning the patentability of any of the claims, he is invited to contact the undersigned at the telephone number set forth below, so those concerns may be expeditiously addressed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas J. Edgington", is written over a horizontal line. The signature is stylized with large, flowing loops.

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